IN THE CLAIMS

This is a complete and current listing of the claims, marked with status identifiers in parentheses. The following listing of claims will replace all prior versions and listings of claims in the application.

1. (Currently Amended) A method for generating images in computed tomography ~~with the aid of a~~using 3D image reconstruction, the method comprising~~including at least the following method steps~~:

   ~~1.1.~~ scanning an examination object by moving a focus on a spiral focal track about the examination object ~~in order to scan an examination object with the aid of~~using a conical beam emanating from ~~a~~ the focus and ~~the aid of~~using a planar~~,~~ ~~preferably multirow,~~ detector for detecting the beam, ~~the focus is moved on a spiral focal track about the examination object,~~ the detector supplying output data~~, that~~ corresponding to the detected radiation~~,~~; and

   reconstructing ~~1.2.~~image voxels from the scanned examination object ~~are reconstructed~~ from the ~~possibly preprocessed~~ output data and ~~reproduce~~ reproducing~~the~~ attenuation coefficients of the respective voxel~~,~~,

~~1.3.~~ each image voxel being reconstructed separately from projection data that ~~comprise~~ include a projection angular range of at least 180°, and

~~1.4.~~ an approximate weighting taking place for each voxel considered in order to normalize the projection data used relating to the voxel.

2. (Currently Amended) The method as claimed in ~~the preceding patent~~ claim 1, ~~characterized in that~~wherein, in order to reconstruct an image voxel ~~(V)~~, using~~e is made of~~ all the detector data along a straight line that runs through the cone beam projection of the image voxel ~~(V)~~ and is aligned in the direction of the projection ~~($\vec{T}$)~~ of the spiral tangent ~~(S_t)~~.

3. (Currently Amended) The method as claimed in ~~one of the preceding patent~~ claim~~s~~ 1 ~~to 2~~, ~~characterized in that~~wherein the image data of the detector image are subjected to a cosine weighting for compensating oblique radiation.

4. (Currently Amended) The method as claimed in ~~one of the preceding patent claims 1 to 3, characterized in that~~claim 1, wherein data not directly available are

obtained from the available data by interpolation from neighboring detector data~~ (detector pixel values)~~.

5. (Currently Amended) The method as claimed in ~~one of the preceding patent claims 1 to 4, characterized in that~~claim 1, wherein during the weighting for compensating the data redundancy, ~~(normalization)~~ two measuring beams (Sa, Sb) are regarded as redundant precisely when it holds that: (θ_a = (2k·π + θ_b and p_a = p_b) or (θ_a = (2k + 1)·π + θ_b and p_a = -p_b), where

k represents an arbitrary natural number,

θ represents the projection angle, and

p represents the distance from the z-axis.

6. (Currently Amended) The method as claimed in ~~the preceding patent~~ claim 5, ~~characterized in that~~wherein the redundant data are multiplied by generalized Parker weights.

7. (Currently Amended) The method as claimed in ~~one of the preceding patent claims 1 to 6, characterized in that~~claim 1, wherein a ramp filter that is manipulated with the aid of a smoothing window is applied to the normalized data.

8. (Currently Amended) The method as claimed in ~~one of the preceding patent claims 1 to 7, characterized in that~~claim 1, wherein a distance weighting is performed for the purpose of 3D back projection into the voxel considered.

9. (Currently Amended) The method as claimed in ~~one of the preceding patent claims 1 to 8, characterized in that~~claim 1, wherein the method~~it~~ is used for cardiac computer tomography by at least one of selecting, weighting ~~or~~ and sorting the measured data in accordance with the movement phases of an examined heart.

10. (Currently Amended) A CT unit for scanning an examination object~~ with the aid of~~, comprising:

a beam emanating from at least one focus ~~-~~and ~~with the aid of~~ a detector array that is of planar design and has a multiplicity of distributed detector elements for detecting the rays of the beam, the at least one focus being movable relative to the examination object on at least one focal track that runs around the examination object and a detector array situated opposite~~,~~ ;

~~at least~~ means for collecting detector data, filtering and 3D back projection~~ being provided~~;~~,~~ and

~~the~~ means for processing the measured data being fashioned in such a way ~~that~~ to carry out the method as claimed in ~~one of~~ claim~~s~~ 1 ~~to 9 can be carried out~~.

11. (Currently Amended) Computer program product ~~running on a CT unit as claimed in claim 10, characterized in that the computer program product includes~~including program elements that during operation in a CT unit, execute the method as claimed in ~~one of claims 1 to 9~~claim 1.

12. (New) The method as claimed in claim 2, wherein the image data of the detector image are subjected to a cosine weighting for compensating oblique radiation.

13. (New) The method as claimed in claim 1, wherein data not directly available are obtained from the available data by interpolation from neighboring detector data.

14. (New) The method as claimed in claim 2, wherein during the weighting for compensating the data redundancy, two measuring beams (Sa, Sb) are regarded as redundant precisely when it holds that: (θ_a = (2k·π + θ_b and $p_a = p_b$) or ($\theta_a = (2k + 1)\cdot\pi + \theta_b$ and $p_a = -p_b$), where k represents an arbitrary natural number,

θ represents the projection angle, and

p represents the distance from the z-axis.

15. (New) The method as claimed in claim 14, wherein the redundant data are multiplied by generalized Parker weights.

16. (New) A CT unit for scanning an examination object, comprising:

a beam emanating from at least one focus and a detector array that is of planar design and has a multiplicity of distributed detector elements for detecting the rays of the beam, the at least one focus being movable relative to the examination object on at least one focal track that runs around the examination object and a detector array situated opposite; and

means for reconstructing image voxels from the scanned examination object from the output data and reproducing attenuation coefficients of the respective voxel, each image voxel being reconstructed separately from projection data that include a projection angular range of at least 180°, and an approximate weighting taking place for each voxel considered in order to normalize the projection data used relating to the voxel.